

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

**Esther S. Takeuchi**

Atty. Docket: 00786.00056

Serial No.: To Be Assigned  
(Based on Parent Application Serial No. 09/750,701)

Group Art Unit: 1745  
Examiner: S. Kalafut

Filed: July 27, 2001

For: **Autoclavable Electrochemical Cell**

**PRELIMINARY AMENDMENT**

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the instant application as follows:

**IN THE SPECIFICATION:**

On page 1, after the title, insert, --This application is a continuation of Serial No. 09/750,701 filed January 2, 2001, which is a continuation of Serial No. 09/551,830 filed April 18, 2000, now abandoned, which is a continuation of Serial No. 08/403,570 filed March 14, 1995, now U.S. Patent 6,150,057, which is a continuation of Serial No. 08/273,604 filed July 12, 1994, now abandoned, which is a continuation of Serial No. 07/987,584 filed December 8, 1992, now abandoned, which is a continuation of Serial No. 07/767,855 filed September 30, 1991, now abandoned.--

**IN THE CLAIMS:**

Please cancel claims 1-20 and add new claims 21-27.

-- 21. In a hermetically sealed non-aqueous electrochemical cell including an active metal anode, a porous solid cathode having a cathode material selected from the group consisting of  $\text{MnO}_2$ , silver vanadium oxide, and  $\text{V}_6\text{O}_{13}$ , a separator between the anode and cathode and a liquid electrolyte wetting the separator and in contact with the anode and cathode, wherein the electrolyte comprises a salt of the anode metal dissolved in an organic solvent, the improvement comprising the addition as a cosolvent with the solvent, of a quantity of diglyme.

22. The cell of claim 21 in which the anode comprises lithium.

23. The cell of claim 21 in which the solvent is propylene carbonate.

24. The cell of claim 21 in which the relative amounts of cosolvent and solvent by weight percentage range from about 10% cosolvent, balance solvent, to about 75% cosolvent, balance solvent.

25. In a hermetically sealed non-aqueous electrochemical cell including a lithium metal anode, a solid cathode having a cathode material selected from the group consisting of vanadium oxide,  $\text{MnO}_2$  and silver vanadium oxide, a separator between the anode and cathode and a liquid electrolyte wetting the separator and in contact with the anode and cathode, wherein the electrolyte comprises a salt of the anode metal dissolved in an organic solvent, the improvement comprising the addition of a mixture of solvents as the organic solvent selected from organic solvents having a boiling point greater than about  $100^\circ\text{C}$  and a dielectric constant greater than about 5.

26. In a hermetically sealed non-aqueous electrochemical cell including a lithium metal anode, a solid cathode having a cathode material selected from the group consisting of vanadium oxide,  $\text{MnO}_2$  and silver vanadium oxide, a separator between the anode and cathode and a liquid electrolyte wetting the separator and in contact with the anode and cathode, wherein the electrolyte comprises a salt of the anode metal dissolved in an organic solvent, the improvement comprising the addition of a mixture of organic solvents as the organic solvent, the solvents selected from the group consisting of diglyme, sulfolane, ethylene carbonate, propylene carbonate, and gammabutyrolactone.

27. In an electrochemical cell comprising a casing; an anode; a solid cathode having as active material a material selected from the group of materials consisting of metal oxide bronzes and carbon monofluoride; and an ionically conductive electrolyte solution, which is operatively associated with said anode and cathode, comprising a lithium salt and an organic solvent, wherein the improvement comprises a combination of components rendering the electrochemical cell autoclavable and dimensionally and chemically stable during repeated prolonged exposures to heat of from about 130 °C, said combination comprising:

an anode having as active material a material which has a melting point greater than 150°C and which is selected from groups IA and IIA of the Periodic Table; and

a mixed electrolytic organic solvent having a boiling point greater than about 100°C and a dielectric constant greater than about 5 selected from the group consisting of sulfolane, ethylene carbonate, propylene carbonate and gammabutyrolactone.--

### REMARKS

Attention is drawn to the response filed on September 17, 1993 in great great grandparent application Serial No. 07/987,584 in which claim 24 was timely added to provoke an interference with the claims of U.S. Patent 5,154,992. This response is incorporated by reference in its entirety. Instant claim 21 corresponds to claim 24 of the great great grandparent application (modified to be fully supported by the instant specification) in order to provoke an interference with the claims of U.S. Patent 5,154,992. Attention is further drawn to the Office Action dated November 19, 1999 in parent application 08/403,570. Instant claims 21-24 correspond directly to claims 26-29 which were rejected in the November 19, 1999 Office Action. Receipt of an Office Action rejecting the instant claims under 35 U.S.C. § 102(e) over U.S. Patent 5,154,992 is requested.

Examination on the merits of the instant application is respectfully requested.

Respectfully submitted,



Date: July 27, 2001

Susan A. Wolffe  
Reg. No. 33,568

Banner & Witcoff, LTD.  
Eleventh Floor  
1001 G Street, N.W.  
Washington, D. C. 20001-4597  
(202) 508-9100